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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,853	07/25/2005	Thomas Durbaum	DE 020185	6186
24737	7590	10/24/2006	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			RILEY, SHAWN	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 10/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/521,853	DURBAUM ET AL.	
	Examiner	Art Unit	
	Shawn Riley	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the specification does not include titling, e.g., "Background of the invention", Summary of the invention", "Brief description of the drawings", etc. Appropriate correction is required.

The disclosure is objected to because of the following informalities: The summary of the invention, at pages 2 lines 9-17 should refer to the claim numbers (and the content of the claims therein) since they maybe changed during prosecution.

Appropriate correction is required.

2. Applicant(s) is(are) reminded of the proper content of an abstract of the disclosure. The abstract should not refer to **purported merits** (reduce costs and operating losses) or speculative applications of the invention and should not compare the invention with the prior art. Correction is required.

3. Applicant(s) is(are) reminded of the proper language and format for an abstract of the disclosure. The form and legal phraseology often used in patent claims, such as "**comprises**", "means", and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. Correction is required. See MPEP § 608.01(b).

4. The language should be clear and concise and should not repeat information given

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in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," "What is disclosed", "**The invention relates to**", "Methods and apparatus are provided", "The present invention provides", "According to the invention", "The objective of the invention", or like phrases, etc. Correction is required. See MPEP § 608.01(b).

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. Buck Regulator with auxiliary switch for Load Fluctuations.

Claim Rejections - 35 U.S.C. § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-6 are rejected under 35 U.S.C. §102(a) as being fully anticipated by Qian (U.S. Patent 6,512,352). Qian shows,¹ (in, e.g., the(ir) figure 4 and corresponding disclosure)

¹ Note claims will be addressed individually and the material in parentheses are the examiner's annotated comments. Further unless needed for clarity reasons, recited limitation(s), will be annotated only upon

As to claim 1. A DC/DC down converter which comprises a synchronous rectifier (S2, see, e.g., column 4 lines 49-51), a switching element (S3) at its input side, an inductance (N2) at its output side (V0) and an auxiliary circuit (S1) which includes an auxiliary switching element (S1), an auxiliary rectifier (DS) and an auxiliary inductance (N1), the auxiliary circuit being coupled to the connection between the synchronous rectifier (S2), the switching element (S3) at the input side and the inductance (N2) at the output side.

As to claim 2. A DC/DC down converter as claimed in claim 1, characterized in that first terminals of the auxiliary switching element, of the auxiliary rectifier and of the auxiliary inductance are connected to one another, the second terminal of the auxiliary switching element being connected to an input terminal of the down converter, the second input terminal of the down-converter being connected to the second terminal of the auxiliary rectifier and to a terminal of the synchronous rectifier, and the second terminal of the auxiliary inductance being connected to the second terminal of the synchronous rectifier (all these elements are electrically connected to one another).

As to claim 3. A DC/DC down converter as claimed in claim 1 or 2, characterized in that it is arranged to turn on the auxiliary switching element while the synchronous rectifier is turned on and while the switching element at the input side is turned off, and also that the auxiliary

their first occurrence. Annotated claims begin with the phrase "As to claim". Claims that are not annotated are seen as having already had the invention(s) addressed previously in an annotated claim and may be repeated for convenience of the applicant/examiner.

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switching element is turned off after the subsequent turning off of the synchronous rectifier (Qian does so).

As to claim 4. A DC/DC down converter as claimed in one of the claims 1 to 3, characterized in that it is arranged to turn on the switching element at the input side, being implemented as a field effect transistor (S3 is a FET), when a current flows in the forward direction of the body diode of the switching element at the input side.

As to claim 5. A DC/DC down converter as claimed in one of the claims 1 to 3, characterized in that it is arranged to measure the voltage on the switching element at the input side and to turn on the switching element at the input side only when the measured voltage on the switching element at the input side has reached a selectable threshold value (as part of the regulation function).

As to claim 6. A DC/DC down converter as claimed in one of the claims 1 to 5, characterized in that it is arranged to turn off the synchronous rectifier, being implemented as a field effect transistor, when a current flows from the connection between the synchronous rectifier, the switching element on the input side and the inductance at the output side towards the synchronous rectifier (also as part of the regulation function).

Allowable Subject Matter

3. No claims are allowable over the prior art of record.

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Conclusion

Any inquiry from other than the applicant/attorney of record concerning this communication or earlier communications from the Examiner should be directed to the Patent Electronic Business Center (EBC) at 1.866.217.9197. Any inquiry from a member of the press concerning this communication or earlier communications from the Examiner or the application should be directed to the Office of Public Affairs at 703.305.8341. Any inquiry from the applicant or an attorney of record concerning this communication or earlier communications from the Examiner should be directed to Examiner Riley whose telephone number is 571.272.2083. The Examiner can normally be reached Monday through Thursday from 7:30-6:00 p.m. Eastern Standard Time. The Examiner's Supervisor is Karl Easthom who can be reached at 571.272.1989. Any inquiry about a case's location, retrieval of a case, or receipt of an amendment into a case or information regarding sent correspondence to a case **should be directed to 2800's Customer Service Center** at 571.272.2815. Any papers to be sent by fax MUST BE sent to fax number **571-273-8300**. Any inquiry of a general nature of this application should be **directed to the Group receptionist** whose telephone number is 571.272.2800. Status information of cases may be found at <http://pair-direct.uspto.gov> wherein unpublished application information is found through private PAIR and published application information is found through public PAIR. Further help on using the PAIR system is available at 1.866.217.9197 (Electronic Business Center).

October 06



Shawn Riley
Primary Examiner